

labelled as *B. retusa* was likely to have been interchanged with that of *B. triandra*.

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us the latter's comments to our queries regarding part of seed studied by them and the caption of Fig. 2D given in their paper.

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S. BANDYOPADHYAY
Botanical Survey of India,
P.O. Botanic Garden,
Howrah 711 103.

K. THOTHATHRI
Plot No. 71, Indira Gandhi Street,
Kaverirangan Nagar, Saligramam,
Madras 600 093.

REFERENCES

- GUNN, CHARLES R. (1991): Fruits and seeds of genera in the subfamily Caesalpinioideae (Fabaceae). U.S. Department of Agriculture, Technical Bulletin No. 1755: 200-205.
- KAUR, HARBANS, R.P. SINGH, A. PAL & K. SAHAI (1992): Morphology, spermoderm pattern and anatomy of some *Bauhinia* species (Caesalpinioideae-Leguminosae). *J. Indian bot. Soc.* 71(1-4): 135-138.

36. ON THE OCCURRENCE OF *GENTIANA INFELIX* CLARKE (GENTIANACEAE) IN GARHWAL HIMALAYAS

(With a text-figure)

During plant explorations in the alpine zones of Garhwal Himalayas a few plant specimens belonging to the Genus *Gentiana* were collected from Kedarnath area. After checking at the Herbaria of Forest Research Institute, Dehra Dun (DD) and B.S.I. Dehra Dun (BSD) and checking recent literature (Garg 1987, Gentianaceae of Northwest Himalaya. CSIR, New Delhi) they have been identified as *Gentiana infelix* Clarke (Gentianaceae).

This species has been considered extremely rare in India and except the syntype from Sikkim and Kumaon there is only one collection from Kinnaur, Himachal Pradesh and one from Sikkim (Garg 1987). It is interesting to note that although it is described from Kumaon on the basis of Strachey and Winterbottom's specimen it has not been collected from Kumaon and Garhwal.

In this communication the full description of the species together with illustrations has been provided to facilitate further collections and easy

identification of the species from North-West Himalayas.

The voucher specimens are deposited and maintained at Herbarium H.N.B. Garhwal University, Srinagar Garhwal, India (GUH).

Gentiana infelix Clarke in Hook. f. Fl. Brit. India 4:111.1883; Kusn. in Acta Horti Petrop. 15(3): 359.1904; Nair, Fl. Bashahr Himal. 186.1977.

Perennial, subglabrous, woody based herbs, branching from the base. Branches many from rootstock, prostrate or ascending, 1.0-2.5 cm long, woody in lower half. Leaves opposite, dry on lower half portion of stem, ovate-oblong, sessile, subobtuse-acute, imbricate, 1-3 x 2-6 mm, one nerved, leaves of uppermost pair pointing upward; leaf pair forming tubular sheath up to 1 mm long, imbricate in sterile branches. Flowers pedicellate, solitary - terminal, inflexed, violet, 8-11 mm long,

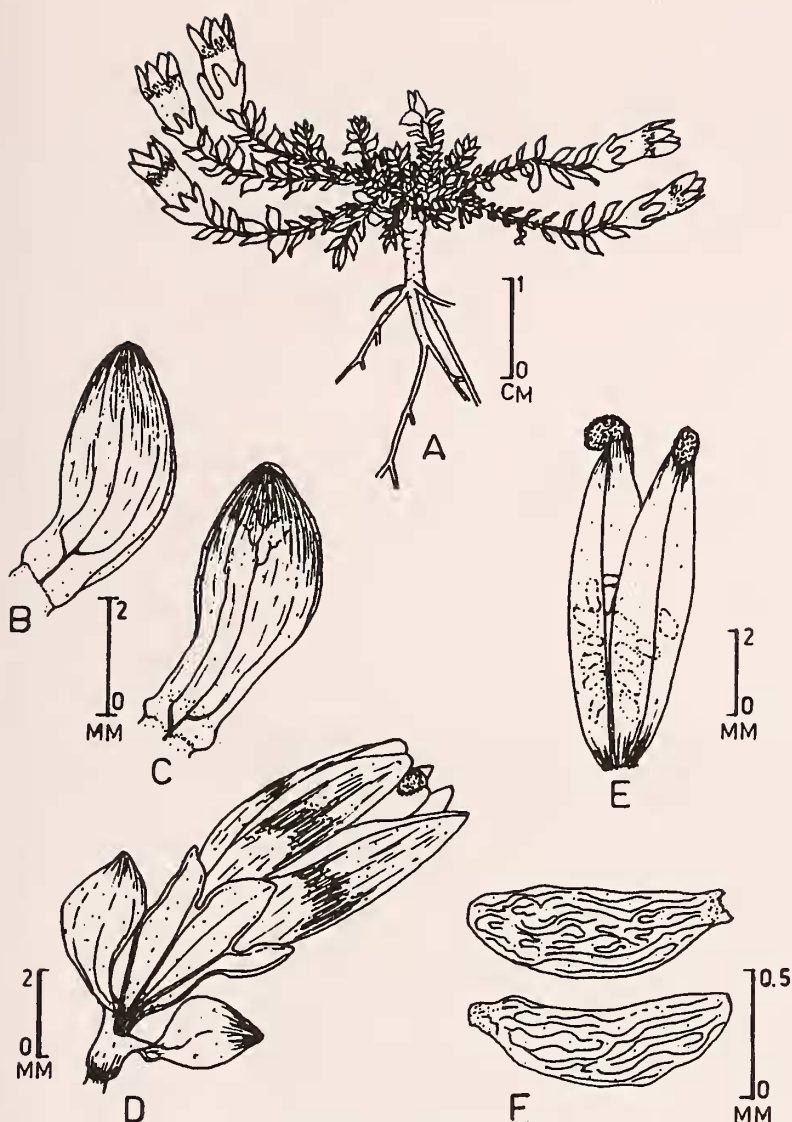


Fig. 1, A-F. *Gentiana infelix* Clarke
 A. A flowering plant; B. Uppermost leaf;
 C. Middle leaf; D. Flower; E. Capsule; F. Seeds.

usually tetramerous, or pentamerous. Pedicel 1-4 mm long, narrowly alate on upper side. Calyx tubular, 4-5 mm long, tube 2-3 mm, lobes 4 (5), ovate with rounded tips, infundibuliform, lobe 2-2.5 x 1.5-1.75 mm, pubescent on outer side specially on nerves. Corolla tubular, 6-10 mm long, subinfundibuliform to campanulate, tube 4-7 mm long, lobes 4 or 5, ovate, subobtuse to obtuse, 2-3 mm long, plicae integral, up to 0.75 mm long, triangular, entire, acute. Stamens as many as corolla lobes, attached to middle of corolla tube; filaments 3-4 mm long, anthers ovate-oblong, 0.5-0.75 mm, one nerved. Ovary elliptic-oblong, sessile, 4-6 mm long, 2-3 mm broad, laterally compressed; style 0, stigma of two diverging papillose lobes. Capsule sessile, included in the persistent corolla, oblong-elliptic, 6-

8.5 mm long, 2-3 mm broad, with persisting stigma lobes. Seeds oblong-elliptic, c. 1 mm long, glabrous, pale green to brown, many in a capsule (Fig. 1A-F).

Flowering and fruiting: August-October.

Distribution: Himachal Pradesh (Kinnaur), Kumaon (Brij Kang Pass); Sikkim (Nathula) and recently from Garhwal (Kedarnath) by us. The species is also distributed in Tibet, China and Nepal.

In Kedarnath area the species grows on exposed grassy slopes along with *Gentiana tubiflora* and other species.

Specimens Examined: Sikkim, Nathula, 4270 m, 12.8.1945, *Bor's collect.* 558 (DD). Nepal, Lumbe Sumba Himal, 4875 m', 18.7.1956, *J.D.A. Stainton*, 124658 (DD). Himachal Pradesh, Kinnaur, Chinni, 2775 m, 3.5.1962, *Nair*, 22369 (BSD). Garhwal, Kedarnath area, 4600 m, Sept. 1993, *D.S. Rawat* and *A.K. Badoni*, 19904 (GUH); Kedarnath area, 4500 m, 10.8.1994, *D.S. Rawat*, 19987 (GUH).

The collection of this species from Garhwal is of considerable interest as it has been collected after about 150 years from the region of Kumaon and Garhwal and except the type specimens only two collections are known from India.

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D.S. RAWAT
 R.D. GAUR
 Dept. of Botany,
 HNB Garhwal University,
 Srinagar (Garhwal)-246 174, India